Spread of Angiostrongylus vasorum in Northern Europe

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Published in:
NKVet Symposium 2008: Parasite infections of domestic animals in the Nordic countries

Publication date:
2008

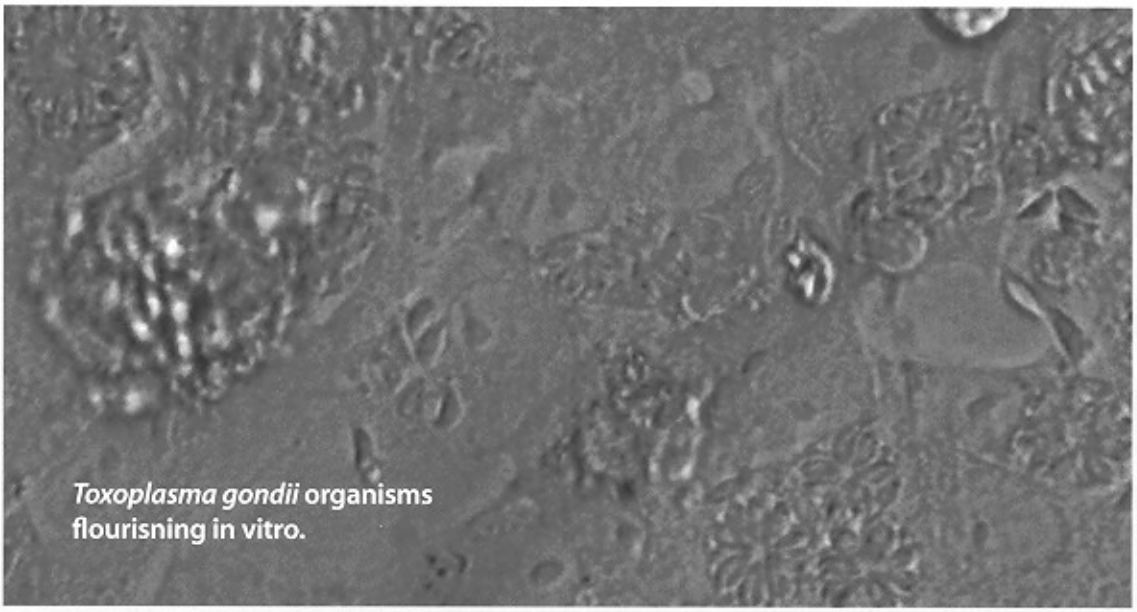
Document version
Publisher's PDF, also known as Version of record

2008 NK Vet Symposium

(Nordic Committee for Veterinary Scientific Cooperation)

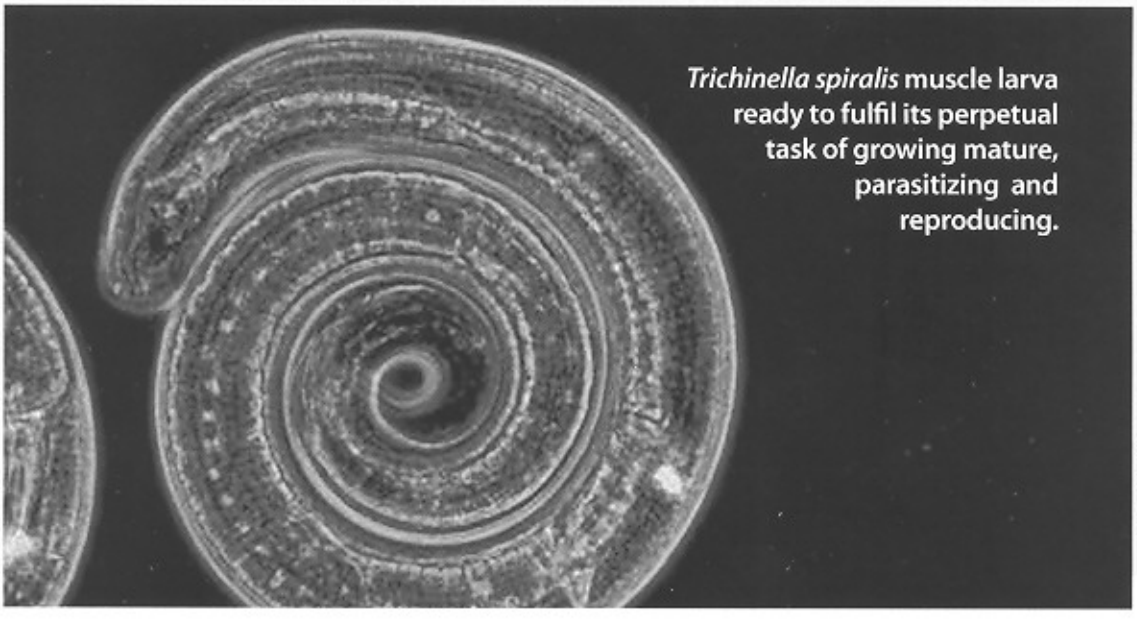
Parasite infections of domestic animals in the Nordic countries – emerging threats and challenges

September 8th and 9th, 2008
Finnish Food Safety Authority Evira, Mustialankatu 3, FIN-00790 Helsinki



Toxoplasma gondii organisms flourisning in vitro.

Pikka Jokelainen



Trichinella spiralis muscle larva ready to fulfil its perpetual task of growing mature, parasitizing and reproducing.

Seppo Saari

Spread of *Angiostrongylus vasorum* in Northern Europe

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The parasitic nematode *Angiostrongylus vasorum* (Baillet, 1866) is wide spread in Europe and can infect a range of canids, including the red fox and the dog. The adult worms are located in the cardiopulmonary arteries. They produce eggs that hatch in the arterioles, enter the bronchial system and are coughed up, swallowed by the host and finally excreted with faeces. The life cycle is indirect and first stage larvae from faeces require a gastropod intermediate host to develop into infective third stage larvae. The final canine host becomes infected after ingesting infected snails or slugs or perhaps paratenic hosts such as frogs. Infections in dogs tend to be chronic and may result in serious illness. Due to the often severe outcome of infection in dogs *A. vasorum* is regarded as a significant and emerging problem in Europe.

The spread of the parasite depends on the presence and abundance of intermediate hosts and the migration or transportation of the final hosts. In Denmark *A. vasorum* was first observed in one dog in 1983 and has been considered to be well established in the fox population on Zealand since the beginning of the 1992. Several species of slugs and snails also harbour the parasite and have the potential of serving as intermediate hosts although certain aspects of the transmission pattern is still unclear and should be considered for further investigation. However the spread of angiostrongylosis seems to be related to long-distance movements of dogs (satellite-spread) combined with local occurrence in fox populations.